CLAIMS

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- 1. A protein drug sustained-release microparticle preparation for injection, characterized by comprising a porous apatite or derivative thereof containing a protein drug, coated with or adhered to, an in vivo disappearing polymer.
- 2. The protein drug sustained-release microparticle preparation for injection according to claim 1, characterized in that the in vivo disappearing polymer is a block copolymer consisting of polyethylene glycol and polylactic acid or copolylactic-glycolic acid.
- 3. The protein drug sustained-release microparticle preparation for injection according to claim 2, characterized in that the block copolymer consisting of polyethylene glycol and polylactic acid or copolylactic-glycolic acid is a block copolymer consisting of polylactic acid or copolylactic-glycolic acid-polyethylene glycol-polylactic acid or copolylactic-glycolic-acid.
- 4. The protein drug sustained-release

 20 microparticle preparation for injection according to claim

 2, characterized in that the block copolymer consisting of
 polyethylene glycol and polylactic acid or
 copolylactic-glycolic acid has a weight-average molecular
 weight of 3,000 to 20,000.
- The protein drug sustained-release microparticle preparation for injection according to claim 2 or 3, characterized in that the block copolymer consisting

of polyethylene glycol and polylactic acid or copolylactic-glycolic acid has 20 to 90% by weight of polyethylene glycol.

- The protein drug sustained-release
 microparticle preparation for injection according to claim
 characterized in that the porous apatite or derivative
 thereof contains a protein drug and a divalent metal salt.
- 7. The protein drug sustained-release microparticle preparation for injection according to claim 10 1, characterized in that the porous apatite or derivative thereof has a protein drug content of 5 to 30%.
 - 8. The protein drug sustained-release microparticle preparation for injection according to claim 1, characterized in that the porous apatite or derivative thereof has an average particle size of 0.5 to 30 μm .

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- 9. The protein drug sustained-release microparticle preparation for injection according to claim 1, characterized in that the porous apatite or derivative thereof is treated in the range from 100 to 600°C.
- 20 10. The protein drug sustained-release microparticle preparation for injection according to claim 1, characterized in that the porous apatite or derivative thereof is an apatite derivative in which a portion of calcium in the porous apatite is substituted with zinc.
- 25 11. A process for producing a protein drug sustained-release microparticle preparation for injection, characterized by comprising dispersing microparticles of a

porous apatite or derivative thereof in an aqueous solution of a protein drug, stirring the dispersion, dispersing the resulting powder in an aqueous solution or suspension of a biodegradable polymer, stirring the dispersion, and then freeze drying or vacuum drying to give a powder.

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